MURGULESCU, I.G., acad.; SEGAL, E.I.

Kinetics of the dehydration of crystalline hydrates. Note II.
Rev chimie 4 no.2:159-170 '59. (EEAI 9:7)

1. Laboratore de Chimie Physique de l'Université "C.I.Parhon," Bucarest. 2. Comité de rédaction, Revue de Chimie; Membre de l'Academie de la Republique Populaire Roumaine (for Murgulescu).
(Dehydration) (Crystals) (Hydrates)
(Zinc sulfate) (Cobalt chlorides)
(Manganese chlorides) (Water)

SEGAL, E.;MURGULESCU, I.

Kinetics of the dehydration of crystal hydrates. Notes II. p. 21

STUDII SI CERCETARI DE CHIMIE. Bucuresti, Rumania.
Vol. 7, no. 1, 1959.

Monthly List of East European Accession (EEAI). LC, Vol. 8 No. 9, September, 1959

Uncl.

SEGAL, E-1

Distr: 4E2c

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1-MJC (JD)

The kinetics of the dehydration of hydrated crystals. III. L. G. Murgulescu and E. I. Segal (Univ. "C. I. Parhon," Bucharest, Romania). *Acad. rep. populare Romine, Studii cercetări chim.* 7, 447–69(1959); cf. preceding abstr.—The dehydration kinetics of $NiCl_2.6H_2O$ in air (powder form) and vacuum (monocryst.) was studied. Two dehydration ranges were observed in the 1st case: $NiCl_2.6H_2O(s) \rightarrow NiCl_2.4H_2O(s)$ ($m_4 = k_4 t_4$) and $NiCl_2.4H_2O(s) \rightarrow NiCl_2.2H_2O(s)$ [$\log m_1/(a_1 - m_1) = k_1 t_1 + C$], but 1 range only in the 2nd case: $NiCl_2.6H_2O(s) \rightarrow NiCl_2.2H_2O(s)$ ($m_s = kt$, where $k = k_0 m_s^{1/3}$, m_s being the crystal mass). The dehydration process, $NiCl_2.4H_2O(s) \rightarrow NiCl_2.2H_2O(s)$, was studied on $NiCl_2.4H_2O$ crystd. from water. A lower coeff. k'_4 was found, probably because of lattice consolidation in the course of crystn. from water. The existence of the $NiCl_2.4H_2O$ was confirmed by use of x-ray diffraction. Examn. of the Debye-Sherrer diagrams yielded information about the inertia of the cryst. lattice in the passage from tetrahydrate to dihydrate. M. Lapidot

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MURGULESCU, I.G., acad; SEGAL, E.I.

Kinetics of the dehydration of crystalline hydrates. Note III. Rev chimie 5 no.1:5-16 '60. (EEAI 10:2)

1. Laboratoire de Chimie physique de l'Universite "C.I.Parhon" de Bucarest. 2. Academie de la Republique Populare Roumaine, Membre de l'Academie de la Republique Populaire Roumaine, Comite de redaction, Revue de chimie (for Murgulescu)
(Hydrates) (Crystals) (Dehydration)

MURGULESCU, I.G., acad.; SEGAL, E.

Kinetics of thermal decomposition of some complex ammines. Studii cer chim 10 no.1:39-48 '62.

1. Universitatea din Bucuresti, Laboratorul de chimie fizica.
2. Membru al Comitetului de redactie, "Studii si cercetari de chimie" (for Murgulescu).

(2)

ISPAS, M., [illegible], SEGAL, E.

(Ro[illegible]

Buc[illegible], [illegible] [illegible]ri de Metalurgie, [illegible] 195[illegible], pp [illegible]79-190

"So[illegible] [illegible] of M[illegible] Gas in the [illegible]

(5[illegible]

TRUKHAN, P.T.; POPOVA, A.A.; Prinimali uchastiye: DOMBROVSKAYA, A.R.; GROSMAN, Z.M.; STROMILO, L.I.; SEGAL', E.M.

Globulin immunization of schoolchildren to prevent infectious hepatitis. Report no.1: Reactions following the introduction of gamma glcbulin. Zhur. mikrobiol., epid. i immun. 41 no.10: 143-144 '64. (MIRA 18:5)

1. Kiyevskiy institut usovershenstvovaniya vrachey i Sanitarno-epidemiologicheskaya stantsiya Podol'skogo rayona Kiyeva.

SEGAL', F.

Kubra, O. K. and Segal', F. "Experiments in the extraction of cuprous sandstone by ammonia solutions," Izvestiya Kiyevsk. politikhn. in-ta, Vol VIII, 1948 (on cover: 1949), p. 123-31

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 26, 1949)

SEGAL', F.

Kudra, O. K. and Segal', F. "The extraction of copper from oxidated ores by iron salt and solutions," Izvestiya Kiyevsk. politekhn. in-ta, Vol VIII, 1948 (on Cover: 1949), p. 132-38

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 24, 1949)

RUM/3-59-10-9/16

15(8)

AUTHORS: Drimus, I., Lecturer and Segal, Francisca, Engineer

TITLE: Aliphatic Double-Base Acids Obtained by the Profound Oxidation of Paraffins

PERIODICAL: Revista de Chimie, 1959, Vol 10, Nr 10, pp 586-589

ABSTRACT: These experiments were conducted on the basis of Rumanian petroleum paraffins with 52°C as melting point and containing a maximum of 10% isoparaffin. The action of nitric acid upon pre-oxidate paraffin with air or oxygen was studied up to various acidity indexes. Generally, operations were conducted with HNO_3, a specific weight of 1.4 - 1.45, with ammonium vanadate as a catalyst. The pressure was normal and the temperature 70-90°C. Tests with HNO_3 with specific gravities higher than 1.5 are difficult because the reaction is exothermic due to abundant foam. The production of double-base acids starting with paraffin has a great

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Aliphatic Double-Base Acids Obtained by the Profound Oxidation of Paraffins

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technical importance since basic raw materials are insured and the acids obtained make manufacture possible from macromolecular products and plasticizers with properties in proportion to the length of the catena of the acid used. Direct paraffin oxidation with oxygen and oxidation of preoxidate paraffin with oxygen and oxidation with nitric acid as a second step indicate the formation of the same series of aliphatic double-base acids with the catena length C_2-C_{10}, succinic acid being in larger quantity. When nitric acid is used for oxidation of a paraffin pre-oxidized with oxygen or water it yields up to 40-50% double-base acids. The above figures are valid for complex utilization of oxidized products. There are 3 photos, 8 tables and 1 graph. This article was completed in July 1958.

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SEGAL, F.

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Circular paper chromatography. A. Miss and Francisca Segal (Forschungsinst. Ministeriums Erdöl, Bucharest, Romania). *Z. anal. Chem.* 165, 1-6(1959).—By the use of a circular paper disk with the spot in the center, solvent is conveniently added by a twisted thread wick underneath. By varying the size of the thread and the material (wool, cotton, rayon, mercerized cotton) the rate of development is easily controlled. The method has been used for the sepn. of amino acids, antibiotics, polycarbonic acids, polyalcs., and sugars. K. G. ~~Stone~~

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L 36915-66 EWP(v)/EWT(k)/EWP(h)/EWP(1)

ACC NR: AP6027836 SOURCE CODE: RU/0018/66/000/002/0075/0083

AUTHOR: Segal, Hugo; Sirbu, Grigore

22

B

ORG: none

TITLE: Determination of the operating characteristics of hoisting machine brakes [This paper was presented at the Mechanics Conference of the ARPR held in September 1965]

SOURCE: Constructia de masini, no. 2, 1966, 75-83

TOPIC TAGS: hoisting equipment, mechanical engineering

11

ABSTRACT: The authors describe the construction of a device for the testing of hoisting machine brakes and discuss the evaluation of the obtained test results. The device was successfully used in studies on 200, 300 and 400-millimeter brakes at the Gh. Gheorghiu-Dej Polytechnic Institute. Orig. art. has: 16 figures and 4 formulas. [JPRS: 36,559]

SUB CODE: 13 / SUBM DATE: none / ORIG REF: 001 / SOV REF: 002
OTH REF: 002

Card 1/1 MT UDC: 621.86/.87-592

0917 134

GUGNYAYEV, Ya.; SEGAL', G.

Calculating the wave calming effect of bushes. Rech. transp.
21 no.5:38-39 My '62. (MIRA 15:5)
(Waves, Calming of) (Embankments)

Segal, G.M.

14

M. A. Yrutz

Scop: US

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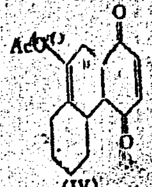
1-Acetoxyvinyl-1-cyclohexene in reactions of diene condensation. New path of synthesis of polycyclic ketones with the α-decalone nucleus. I. N. Nazarov, V. F. Kucherov, V. M. Andreev, and G. M. Segal (N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 104, 729-32(1955).—To a warm mixt. of 0.92 g. HgO, 1 ml. Ac_2O, and 0.6 ml. BF_3-Et_2O was added 5 ml. AcOH, 1 ml. Ac_2O and the mixt. chilled, treated over 0.5 hr. with 16.5 g. 1-ethynyl-1-cyclohexene, 5 ml. AcOH, and 1 ml. Ac_2O, after 40 min. dild. with 20 ml. Et_2O and poured into cold 10% Na_2CO_3 yielded on distn. of the org. layer 37% *1-α-acetoxyvinyl-1-cyclohexene* (I), b_9 99-100°, n_D^{20} 1.4072, d_{20} 1.0372; hydrolysis with 3% HCl gave *1-acetyl-1-cyclohexene*, b_{11} 79-80°, n_D^{20} 1.4002 (*semicarbazone*, m. 220-1°). Refluxing 8 g. I with 4 g. $CH_2{:}CHCO_2Me$ in abs. MePh with a little pyrogallol 15 hrs. gave *Me 4-acetoxy-Δ⁴-octahydronaphthalene-1-carboxylate* (II), b_1 133-5°, n_D^{20} 1.4910, d_{20} 1.1030. Similarly, I and maleic anhydride 8 hrs. in refluxing C_6H_6 gave 84% *anti-cis-4-acetoxy-Δ⁴-octahydronaphthalene-1,2-dicarboxylic anhydride* (III), b_1 206-7°. I and benzoquinone similarly gave 67% IV, m. 121°, while I



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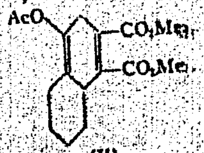

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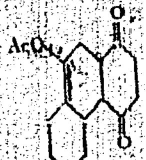

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Nazarov, I. N.

and $(\vdots CCO_2Me)_2$ in boiling MePh apparently gave 81% V, m. 123-4°. II consists of 2 epimers with respect to the H atom at C_9; hydrolysis with KOH gave pure *trans-anti-4-oxo-decahydronaphthalene-1-carboxylic acid*, m. 150° (*Me ester*, m. 98°), which on Clemmensen reduction gave *trans-anti-decahydronaphthalene-1-carboxylic acid*, m. 88° (*amide*, m. 223°). The other *epimeric* acid was a *liquid*, *Me ester*, m. 92°, of *trans-syn-4-oxo-decahydronaphthalene-1-carboxylic acid*, Clemmensen reduction of which and amidation of the resulting acid gave *trans-syn-decahydronaphthalene-1-benzamide*, m. 112° (cf. Hückel, *C.A.* 32, 3375^4). III sapond. to the corresponding *anti-cis dicarboxylic acid*, m. 212° (*di-Me ester*, m. 92°); the free acid with 0.3% HCl gave *trans-4-oxodecahydronaphthalene-1,2-dicarboxylic acid* (VI), which on Clemmensen reduction gave *trans-anti-cis-decahydronaphthalene-1,2-dicarboxylic acid*, m. 151° (cf. *C.A.* 50, 4882b). The anti-cis di-Me ester, m. 92°, boiled with 0.3% HCl gave a *di-Me ester*, m. 101°, corresponding to that of VI (a cis isomer); however sapon. with 0.5% MeONa gave *di-Me trans-anti-trans-4-oxodecahydronaphthalene-1,2-dicarboxylate*, m. 90° (*2,4-dinitrophenylhydrazone*, m. 170°), Clemmensen reduction of which gave *trans-anti-trans-decahydronaphthalene-1,2-dicarboxylic acid*, m. 200° (cf. *loc. cit.*). Hydrogenation of IV gave VII, which with 2% HCl gave *trans-anti-cis-1,4,9-trioxoperhydrophenanthrene*, m. 189°. G. N. K.

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SEGAL, G.M.

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Stereochemistry of cyclic compounds. XIV. Condensation of 1-α-acetoxyvinyl-1-cyclohexene with methyl acrylate. I. N. Nazarov, V. F. Kucherov, and G. M. Segal (N. D. Zelinskii Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 1215-20; cf. *C.A.* 51, 1927*d*, 5016*b*.—Refluxing 28 g. 1-α-acetoxyvinyl-1-cyclohexene and 13.8 g. $CH_2:CHCO_2Me$ in 60 ml. C_6H_6 with a little pyrogallol 20 hrs. gave 23.2 g. mixed adducts, b_2 130-2.5°; the yield rose to 80% upon refluxing in MePh 15 hrs., while in an ampul at 175-80° 6 hrs. a 65% yield was obtained, while standing in an ampul 65 days gave 24% yield. The mixed adducts refluxed with aq. KOH 3 hrs., acidified, and extd. with Et_2O gave after evapn. of the ext. and treatment of the residue with Et_2O-petr. ether, from 23.2 g. mixed products, 7 g. *trans-anti-4-oxodecahydronaphthalene-1-carboxylic acid* (I), m. 155-6°; *amide*, m. 201-2°. The residue treated with CH_2N_2 gave 2.65 g. *Me trans-syn-4-oxodecahydronaphthalene-1-carboxylate*, m. 91-2° (from petr. ether), which hydrolyzed with 20% KOH gave mixed isomeric acids from which could be isolated but 60% initial trans-syn isomer. The ester forms a *semicarbazone*, m. 222-3°. Addnl. ester and the trans-anti acid were isolated from the residues after sapon. with NaOH. The adduct mixt. formed at lower temps. (see above) tends to contain primarily the trans-anti isomer. I with CH_2N_2 gave its *Me ester*, m. 67-8°, which with 20% KOH gave 100% I; the ester forms a *semicarbazone*, m. 225-6°. I Me ester refluxed 5 hrs. with amalgamated Zn and concd. HCl 5 hrs. gave *trans-anti-decahydronaphthalene-1-carvoxylic acid*, m. 87-8°; *amide*, m. 222-3°. Similar reduction of Me ester of the trans-syn isomer above gave *trans-syn-decahydronaphthalene-1-carboxylic acid*, m. 126-7° (*amide*, m. 102-3°), which (1 g.) in 28 ml. $CHCl_3$ treated with 11 ml. concd. H_2SO_4, heated to 40°, treated with 0.8 g. NaN_3, heated 1 hr. at 50°, treated with H_2O, and extd. with Et_2O, yielded 0.65 g. *trans-syn-decahydro-1-naphthylamine*, isolated as the *N-Ac deriv.*, m. 129-30°, and *N-Bz deriv.*, m. 110-11°. I Me ester heated 2 hrs. to 250° was unchanged; the trans-syn isomer isomerized in part at 250°. ~~G. M. Kosolapoff~~

chem

NAZAROV, I.N.; KUCHEROV, V.F.; SEGAL', G.M.

Research in the stereochemistry of cyclic compounds. Part 9. Condensation of 1-vinyl-Δ'-cyclohexene with methyl acrylate. Izv.AN SSSR.Otd.khim. nauk no.5:559-568 My '56. (MIRA 9:9)

1.Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk SSSR. (Cyclohexene) (Acrylic acid)

SEGAL, G-M.

YUGOSLAVIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 22, 73969.

Author : I.N. Nazarov, V.F. Kucherov, V.M. Andreyev, G.M. Segal'.

Inst :

Title : Upon the Spatial Directivity of Diene Condensations and Stereochemistry of Cyclic Carboxylic Acids.

Orig Pub: Croat. chem. acta, 1957, 29, No 3-4, 369-392.

Abstract: Trans-1,2-dimethylbutadiene-1,3 (I) was prepared by the dehydration of methylethylvinylcarbinol at 300 to 310° on $MgSO_4$, yield - 50 to 60%, boil. p. - 76.5 to 78°, $n^{20}D$ - 1.4515. Boiling (4 hours) 51.5 g of I with 56 g of malein anhydride in C_6H_6 resulted in anhydride (III) of cis-cis-3,4-dimethyl-Δ^4-cyclohexenedicarboxylic-1,2 acid (IV), yield - 56.5 g,

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2-monomethyl ester of IV (IX), yield 3.1 g, melt. p. 114 to 115° (from ether + petroleum ether, 1 : 1) and 2-monomethyl ester of VI (X), yield 1.05 g, melt. p. 112 to 113° (from 50%-ual CH_3OH) were produced by partial saponification of 4.4 g of V and 1.9 g of VIII correspondingly with 1 mole KOH solution. Trans-trans-3,4-dimethyl-Δ^4-cyclohexene-dicarboxylic -1,2 acid (XI), yield 0.9 g, melt. p. 149 to 150°, and its trans-cis-isomer (XII), yield 0.4 g, melt. p. 184 to 185° (from water) were synthetized by the isomerization of 1.2 g of IX and 0.6 g of X correspondingly by boiling with CH_3ONa and absolute CH_3OH and following saponification. The melting points of XI and XII anhydrides were 100 to 101° (from ether + petroleum ether) and 100 to 101° (from ligroin)

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correspondingly. Cis-cis-1,4-lacto-3,4-dimethylcyclohexanecarboxylic-2 acid (XIII) was obtained by heating 5 g of IV (1 hour, 60°) in glacial CH_3-COOH saturated with HCl (gas), yield 3.4 g, melt. p. 186 to 187° (water), the melt. p. of the methyl ester thereof was 109 to 110° (from 70%-ual CH_3OH). Under these conditions, XII (0.9 g) undergoes a preliminary cycle conversion producing trans-cis-1,4-lacto-3,4-dimethylcyclohexane-carboxylic-2 acid (XIV) in the result of a following lactonization, yield 0.55 g, melt. p. 154 to 155° (from 20%-ual aqueous acetone). Methyl ester of XIV, melt. p. 57 to 58° (from petroleum ether + ether) produced XIII by isomerization with CH_3ONa and following saponification. Similarly,

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2.5 g of VI are lactonized into a mixture, from
which 1.1 g of cis-trans-2,4-lacto-3,4-dimethyl-
cyclohexanecarboxylic-1 acid (XV), melt. p. 199 to
20° (from 15%-ual aquecus acetone) was separated.
After the separation of XV, the mother liquor was
treated with CH_2N_2 and 0.75 g of ester, melting p.
63 to 65°, was obtained; that ester, after saponi-
fication, produced cis-trans-1,4-lacto-3,4-dimethyl-
cyclohexanecarboxylic-2 acid, yield 0.6 g, melt. p.
161 to 162° (from water). Under the same condi-
tions, XI (2.2 g) produced only 0.7 g trans-3,4-
dimethyl- Δ^3 -cyclohexenedicarboxylic-1,2 acid
of melt. p. 161 to 162° (from water). It was
established that the catalytic hydrogenation of
2.15 g of IV on Pt in CH_3OH proceeds spatially

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selectively from the side opposite to COOH groups and led to cis-cis-cis-3,4-dimethylcyclohexanedicarboxylic-1,2 acid (XVI), yield 2 g, melt. p. 187 to 188° (dissociates, from 50%-ual acetone). 10 g of III was converted into 9.6 g of anhydride of XVI (XVII), boil. p. 145 to 146°/5 mm, $n^{20}_D = 1.4835$, $d_4^{20} = 1.1435$ in a similar way (but in C_6H_6). Boiling of 5.9 g of XVII in absolute CH_3OH led to 1-monomethyl ester of XVI, yield 4.25 g, melt. p. 110 to 111° (from 60%-ual CH_3OH), 1.5 g of which yielded 1.2 g of trans-cis-cis-3,4-dimethylcyclohexanedicarboxylic-1,2 acid (XVIII), melt. p. 183 to 184° (from water) by isomerization with CH_3ONa and following saponification; anhydride of XVIII, melting

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p. 52 to 53°. 2.7 g of 2-monomethyl ester of XVI, melt. p. 77 to 78° (from petroleum ether), was synthetized by hydrogenating 3.1 g of IX on Pt in CH_3OH. 1.7 g thereof was converted into trans-trans-cis-3,4-dimethylcyclohexanedicarboxylic-1,2 acid by isomerization with CH_3ONa and saponification, yield 1.3 g, melt. p. 175 to 176° (from water); its anhydride, melt. p. 108 to 109° (from benzene + petroleum ether). Thermal isomerization of 9.6 g of XVII (210 to 215, 3 hours, N_2 flow) in the presence of $(C_2H_5)_2NC_6H_5$ resulted in 5.1 g of anhydride (XIX) of cis-trans-cis-3,4 dimethylcyclohexanedicarboxylic-1,2 acid (XX), melt. p. 58 to 59° (from petroleum ether + ether). The melting point of XX was 175 to 176° (from aqueous acetone). 3.2 g of anhydride of cis-trans-trans-3,4-

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dimethylcyclohexanedicarboxylic-1,2 acid (XXI acid), melt. p. 69 to 70° (from petroleum ether + ether), together with 0.35 g of XIX was produced by hydrogenation of 7.3 g of VII on Pt in C_6H_6. 1.3 g more of XX was produced from the residue after XIX and XXI separation and saponification. XXI was produced by hydrolizing the anhydride, melt. p. 113 to 114° (from 10%-ual acetone), it produced dimethyl ester with the boil. p. of 108 to 109°/3.5 mm, $n^{20}D = 1.4595$, and $d_4^{20} = 1.0722$. The latter (1.3 g)was converted by the action of CH_3ONa into trans-trans-trans-3,4-dimethylcyclohexanedicarboxylic-1,2 acid (XXII), melt. p. 158 to 159° (from water), which produced its anhydride of melt. p. 95 to 96° ((from ether + petroleum ether). The spatial direct-

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ivity of oxidation of diene synthesis products with peracetic acid and osmic anhydride was also studied. The oxidation of 5 g of syn-Δ^4-octalenecarboxylic-1-acid (XXIII) (-10°, 12 hours) with 90%-ual CH_3COOH in $CHCl_3$ resulted only in α-oxide (XXIV), yield 4.9 g melt. p. 125 to 126° (from ether), the configuration of which was proved in the following way. XXIV was converted into syn-1,10-lactodecalol-4 (XXV) by the action of HCl (gas) in C_6H_6 or by boiling in CH_3OH, the yield was quantitative, melt. p. 90 to 91° (from ether + petroleum ether, 1 : 1). Acetate of XXV, melt. p. 129 to 130°. Oxidation of 5 g of XXV with CrO_3 in CH_3COOH led to syn-1,10-lactcdecalone-4 (XXVI), yield 4.5 g, melt. p. 108 to 110° (from acetone + ether, 1 : 1),; semicarbazone of XXVI, melt. p. 222 to 223°.

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The known methyl ester of syn-trans-dekalincarboxy-
lic-1 acid was prepared by the reduction of XXVI
according to Klemmensen in the presence of CH_3OH
and 1 g of XXVI was converted into 0.7 g of syn-
1,10-lactodecalol-4 (XXVII), melt. p. 133 to 134°
(from acetone + ether) by hydrogenation on Pt in
CH_3COOH; XXVII acetate, melt. p. 126 to 127°. Hy-
droxylation of 1.3 g of XXIII with OsO_4 in abso-
lute ether results in 1.2 g of cis-cis-syn-4,10-
dioxydecalincarboxylic-1 acid, melt. p. 177 to 178°
(from water), the structure of which is proved by
dehydration with n-$CH_3C_6H_4SO_3H$ at 120° into cis-
syn-4-ketodecalincarboxylic-1 acid (XXVIII), melt.
p. 136 to 137° (from ether); methyl ester of
XXVIII (XXVIIIa), melt. p. 52 to 54° (from petroleum

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ether); semicarbazone of XXVIIIa, melt. p. 198 to 199° (from CH_3OH). XXIII (0.3 g) was isomerized into trans-syn-ketodecalincarboxylic-1 acid (0.2 g), melt. p. 85 to 86° (from ether + petroleum ether), by heating with 15%-ual HCl (acid (100°, 10 hours); methyl ester, melt. p. 90 to 91°. 3.9 g of λ-oxide (XXX), melt. p. 136 to 137° (from ether + petroleum ether) was obtained by the action of 90%-ual CH_3COOOH on 5 g of anti-Δ^{7}-octalincarboxylic-1 acid (XXIX). Boiling of 0.7 g of XXX in aqueous dioxane in the presence of H_2SO_4 led to trans-trans-anti-4,10-dioxydecalincarboxylic-1 acid, yield 0.35 g, melt. p. 180 to 181° (from acetone + ether, 1 : 1); methyl ester, melt. p. 125 to 126° (from ether). The latter was converted into the known methyl ester

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YUGOSLAVIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 22, 73969

of trans-anti-4-ketodecalincarboxylic-1 acid (XXXI), melt. p. 66 to 68°, by dehydration with n-$CH_3C_6H_4SO_3H$. 0.95 g of cis-trans-anti-4,10-dioxydecalincarboxylic-1 acid, melt. p. 190 to 191° (from acetone) was produced by hydroxylation of 1.3 g of XXIX with OsO_4, methyl ester of the product yielded XXXI at dehydration. Oxidation of 22.5 g of III with 82%-ual CH_3COOOH in $CHCl_3$ at 0° led to a mixture, from which 11.7 g of α-oxide (XXXII), melt. p. 140 to 142° (from acetone), and 6.1 g of β-oxide (XXXIII), melt. p. 137 to 138° (from acetone) were separated. The structure of the oxides was proved by the following conversions. 2.8 g of cis-cis-trans-cis-2,4-lacto-3,4-dimethyl-5-oxy-cyclohexanecarboxylic-1

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YUGOSLAVIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 22, 73969.

acid (XXXIV), melt. p. 183° (from acetone) was precipitated by the dissolution of 3.5 g of XXXII in aqueous NaOH and following acidification with HCl (acid), while 1.5 g of XXXIII produced chlorohydrin under these conditions; chlorohydrin converts at 130° into 1.1 g of cis-cis-trans-cis-2,4-lacto-3,4-dimethyl-5-chloro-cyclohexanedicarboxylic-1 acid, melt. p. 173 to 174° (from 20%-ual acetone). The corresponding 5-keto acid (XXXV), yield 1.2 g., melt. p. 189 to 190° (from ethylacetate) was synthetized by the oxidation of 2.8 g of XXXIV with CrO_3 in CH_3COOH; methyl ester of XXXV, melt. p. 92 to 93°. The reduction of 2 g of XXXV according to Klemmensen prdduced a mixture, from which 0.25 g of

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YUGOSLAVIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref Zhur-Khimiya, No 22, 73969

cis-cis-trans-3,4-dimethyl-cyclohexanedicarboxylic 1,2 acid, melt. p. 166 to 167° (from 20%-ual acetone) was precipitated; dimethyl ester (XXXVI), boil. p. 119 to 120°/6 mm, $n^{20}D = 1.4580$. XXXVI produced XXII by isomerization with CH_3ONa and following saponification. The oxidation of anhydride of syn-cis-Δ^4-octalindicarboxylic-1,2 acid (12 g) with 90%-ual CH_3COOOH in $CHCl_3$ at 0° also resulted in a mixture of oxides, from which 6.6 g of β-oxide, melt. p. 161 to 162° (from benzene), and 3.7 g of α-oxide, melting p. 82 to 83° (from ether + benzene) were separated. A review of works of Nazaroff and coworkers concerning the study of diene condensation of vinylcyclenes published earlier is presented.

Cardq : 14/14

SEGAL', G.M. Cand Chem Sci -- (diss) "Stereochemistry of xxxxxxxx decalyne and Δ^4 octalyno-carbonic acids and their transformations." Mos 1958, 14 pp (Acad Sci USSR. Inst of Org Chem im N.D. Zelinskiy) 110 copies (KL, 21-58, 88)

KUCHEROV, V.F., doktor khim. nauk, sotrudnik, red.; RUDENKO, V.A., sotrudnik, red.; ANDREYEV, V.M., sotrudnik, red.; ONISHCHENKO, A.S., sotrudnik, red.; SEGAL, G.M., sotrudnik, red.; SATAROVA, M.V., red.; GRIBOVA, M.P., tekhn. red.

[Stereochemistry of cyclohexane derivatives; collection of articles] Stereokhimiia proizvodnykh tsiklogeksana; sbornik statei. Moskva, Izd-vo inostr. lit-ry, 1958. 329 p. [Translated from the English and French]. (MIRA 11:11)

1. Institut organicheskoy khimii im. N.D.Zelinskiy AN SSSR (for Kucherov, Rudenko, Andreyev, Onishchenko, Segal).

(Cyclohexane)
(Stereochemistry)

AUTHORS: Kucherov, V. F., Segal', G. M., Nazarov, I. N.

62-58-3-22/30

TITLE: The Stereochemistry of the Oxidation of the Δ^4-Octaline-Carboxylic Acids (Stereokhimiya okisleniya Δ^4-oktalinkarbonovykh kislot)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 3, pp. 367-369 (USSR)

ABSTRACT: It was of interest to the authors to investigate the stereochemistry of the oxidation of the above mentioned (and of similar) acids by means of acetic acid and osmium anhydride. The investigations carried out showed that sin- and anti-Δ^1-octaline-1-carboxylic acids produce individual α-oxides with good yields in the oxidation with peracetic acid. Their configurations correspond to the disposition of the oxycycle which is opposite to that of carboxylic acid groups. Such a configuration of the α-oxides was proved by a number of stereospecific reactions. They made at the same time possible the synthesis of stereoisomeric 4-ketodekaline-carboxylic acids. See formulae 1-10.

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The Stereochemistry of the Oxidation of the Δ^4- Octaline-Carboxylic Acids 62-58-3-22/30

Different from this the oxidation of the sin-cis-Δ^4-octaline-1,2-dicarboxylic acid takes place in both possible stereo directions with simultaneous formation of isomeric α- and β-oxides (see formulae 14-18, 19-25 and 26-30).
There are 5 references, 4 of which are Slavic.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute for Organic Chemistry imeni N. D. Zelinskiy, AS USSR)

SUBMITTED: October 16, 1957

Card 2/2

20-119-5-29/59

AUTHORS: Nazarov, I. N., Member, Academy of Sciences, USSR (Deceased), Kucherov, V. F., Andreyev, V. M., Segal', G. M.

TITLE: The Stereochemistry of the Diene-Condensation of 1-α-Acetoxyvinyl- Δ^1-Cyclohexene With Maleic Aldehyde (Stereokhimiya diyenovoy kondensatsii 1-α-atsetoksivinil-Δ^1-tsiklogeksene S maleinovym angidridom)

PERIODICAL: Doklady Akademii Nauk, SSSR, 1958, Vol. 119, Nr 5, pp. 945-948 (USSR)

ABSTRACT: The reaction mentioned in the title in boiling benzene (ref 1) yields a liquid adduct I, whose saponification by water leads to an 85 % yield of individual anti-cis-4-acetoxy-Δ^4-octaline-1,2-dicarboxylic acid II. Its configuration was proved. On the basis of the data obtained the conclusion was drawn that the above-mentioned liquid adduct I possesses an anti-cis-configuration and that the diene-configuration is under these conditions on the whole formed in contrast to the rule of the accumulation of unsaturatedness. It was then proved that the adduct is not individual and that it contains a small quantity of

Card 1/4

anhydride
after the decomposition
treatment of the hydroxylation

The Stereochemistry of the Diene-Condensation of 1-α-Acetoxyvinyl-Δ^1-Cyclohexene With Maleic Aldehyde

20-119-5-29/59

product with diazomethane, cis-glycol-XI-ether was isolated. The configuration of the latter corresponds to the addition of osmium anhydride from the side opposite to the carboxyl groups (ref 5). Thanks to the axial position of the tertiary hydroxyl group this glycol proved to be easily capable of dehydration on heating with p-toluene sulfo acid and yielded the above-described trans-syn-4ketodiether VII. As far as such a conversion does not immediately touch the centers of asymmetry in C_2, C_5 and C_9 and leads to a trans-addition of the cycles it must be stated that the keto ether produced on that occasion as the main reaction product really possesses a trans-syn-cis-configuration. The latter is a sufficiently unique confirmation of the configuration of 4-ketoacid VI and its diether VII produced in a diene-synthesis. An experimental part with the usual data follows. There are 5 referances, 3 of which are Soviet.

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The Stereochemistry of the Diene-Condensation of 20-119-5-29/59
1-α-Acetoxyvinyl-Δ^1-Cyclohexene With Maleic Aldehyde

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute for Organic Chemistry imeni N. D. Zelinskiy AS USSR)

SUBMITTED: December 21, 1957

Card 4/4

SEGAL', G. M.

G. M. Segal' and V. F. Kucherov, "Stereochemistry of the Oxidation of Δ^4-Octaline Carboxylic Acids."

report presented at the Symposium on Concepts of Conformation in Organic Chemistry which took place in Moscow at the IOKh AN SSSR (Institute of Organic Chemistry, AS USSR) from September 30 to October 2, 1958.

Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1959, No. 3, 561-564.

5(3)

AUTHORS: Kucherov, V. F., Segal', G. M., Nazarov, I. N.

SOV/62-59-4-17/42

TITLE: Investigation in the Field of Stereochemistry of the Cyclic Compounds (Issledovaniye v oblasti stereokhimii tsiklicheskikh soyedineniy). Communication 22. Stereochemistry of the Oxidation of Syn-Δ^4-Octaleno-1-Carboxylic Acid and the Configuration of the Products Thus Obtained (Soobshcheniye 22. Stereokhimiya okisleniya sin-Δ^4-oktalin-1-karbonovoy kisloty i konfiguratsiya poluchennykh pri etom produktov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 4, pp 673-681 (USSR)

ABSTRACT: In the present work the previously described (Ref 1) syn-Δ^4-octaleno-1-carboxylic acid (I) was investigated. It was found that the oxidation of this acid as well as its catalyzed hydrogenation are sterically selective and that only a single crystalline oxide (II) is quantitatively formed by the action of peracetic acid in chloroform. This oxide gives with diisomethane a liquid ester (III). The α-oxide shows a strong tendency to lactonize. When subjected to the action of

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Investigation in the Field of Stereochemistry of the Cyclic Compounds. Communication 22. Stereochemistry of the Oxidation of Syn-Δ^4-Octaleno-1-Carboxylic Acid and the Configuration of the Products Thus Obtained

SOV/62-59-4-17/42

hydrogen chloride in ether or when boiled in methanol it gives the hydroxy-γ-lactone (IV) in a high yield. The latter is also formed when the oxydole ester (III) is boiled in liquid dioxane in the presence of sulphuric acid. The consideration of a model of epimeric hydroxy-γ-lactones shows that the axial hydroxyl group in hydroxy-γ-lactone (IV) is less shielded than the equatorial group in hydroxy-γ-lactone (IX), in which the lactone nucleus can exercise its steric action. As is apparent from the configuration of syn-Δ^4-octaleno-1-carboxylic acid (I), its oxidation with osmic acid anhydride and with peracetic acid can take place only from the side opposite to the shielded axial carboxyl group. Owing to the cis-hydroxylation, cis-glycol of the cis-decalin series (XIV) is formed in this case and the ester (XV) of this compound is formed in a similar manner by the oxidation of the syn-ester (XVI). The dehydration of the cis-glycol (XIV) with p-toluenesulphonic acid gives syn-cis-4-ketodecalin-1-carboxylic acid (XVII), the ester of

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Investigation in the Field of Stereochemistry of the Cyclic Compounds. Communication 22. Stereochemistry of the Oxidation of Syn-Δ^4-Octaleno-1-Carboxylic Acid and the Configuration of the Products Thus Obtained

SOV/62-59-4-17/42

which is also formed by the dehydration of cis-glycol ester (XV). The stereochemistry of the oxidation of syn-Δ^4-octaleno-1-carboxylic acid (I) with peracetic acid and osmic acid anhydride can be demonstrated by molecular models (Page 676). The configuration and conformation of the α-oxide (II) of the cis-glycol (XIV) and all their conversion products have been confirmed by infrared spectra, stereospecific reactions and molecular models. There are 11 references, 5 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 10, 1957

Card 3/3

5(3)

AUTHORS: Kucherov, V. F., Segal', G. M., Nazarov, I. N. SOV/62-59-4-10/42

TITLE: Investigation in the Field of the Stereochemistry of the Cyclic Compounds (Issledovaniye v oblasti stereokhimii tsiklicheskikh soyedineniy). Communication 23. Stereochemistry of the Oxidation of Anti-Δ^4-Octaleno-1-Carboxylic Acid (Soobshcheniye 23. Stereokhimiya okisleniya anti-Δ^4-oktalin-1-karbonovoy kisloty)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 4, pp 682-689 (USSR)

ABSTRACT: In the present work the oxidation of anti-Δ^4-octaleno-1-carboxylic acid (IV), in which the shielding action of the equatorial carboxyl leads only to the trans-decalin system, was investigated. In spite of a more widely opened double bond in (IV) its oxidation is also sterically selective and forms a single, individual α-oxide (V) in a yield of 80 %. When treated with diazomethane this oxide gives a liquid oxide ester (VI). Owing to the presence of the equatorial carboxyl the α-oxide cannot form lactones and when boiled in aqueous dioxane in the presence of sulphuric acid gives the trans-glycol (VII).

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Investigation in the Field of the Stereochemistry of the Cyclic Compounds. Communication 23. Stereochemistry of the Oxidation of Anti- Δ^4-Octaleno-1-Carboxylic Acid SOV/62-59-4-18/42

The reaction has a similar course in the case of the oxide ester (VI), under formation of trans-glycol ester (VIII). This is also obtained by treating (VII) with a diazomethane ester solution. To prove the configuration of (VII) the dehydration of its ester (VIII) with p-toluene sulphonic acid was investigated. It was found that this does not cause lactonization whereas the previously described (Ref 4) ester of trans-anti-4-ketodecalin-1-carboxylic acid (IX) is formed in a good yield. This fact proves that the transglycol (VII) contains a trans-decalin system with a diaxial distribution of the hydroxyl groups at C_4 and C_{10} and the carboxyl at C_1 in an equatorial position. This configuration confirms also the α-configuration of the oxide cycle in the initial oxide (V). This configuration results from the addition of the oxygen from the direction opposite to the equatorial carboxyl group. From the same direction the hydroxylation of (IV) with osmic acid anhydride is effected. The resulting cis-glycol (XII) was found unable to lactonize. Its ester, also formed when the

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Investigation in the Field of the Stereochemistry of the Cyclic Compounds. Communication 23. Stereochemistry of the Oxidation of Anti-Δ^4-Octaleno-1-Carboxylic Acid SOV/62-59-4-18/42

ester of anti-Δ^4-octaleno-1-carboxylic acid (XIV) is reacted with osmic acid anhydride, formed upon dehydration the ester of trans-anti-ketonic acid (IX). The cis-adduct (XXI) was obtained by condensing trans-1,2-dimethylbutadiene with methacrylate at room temperature. According to the general steric laws applicable to diene synthesis, (XXI) must contain the carboxyl group in axial position. For this reason the cis-2,3-dimethyl-Δ^3-cyclohexane-1-carboxylic acid (XXII) formed by the saponification of (XXI) forms easily the γ-lactone. A similar course has the oxidation of (XXII) with peracetic acid. The fact that the resulting α-oxide (XXIV) can easily form the hydroxy-γ-lactone (XXV) proves clearly the cis-configuration of the initial acid (XXII) having the carboxyl at C_1 in axial position and the α-configuration of the oxide (XXIV). There are 8 references, 6 of which are Soviet.

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Investigation in the Field of the Stereochemistry of SOV/62-59-4-18/42
the Cyclic Compounds. Communication 23. Stereochemistry of the Oxidation of
Anti- Δ^4-Octaleno-1-Carboxylic Acid

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 10, 1957

Card 4/4

5 (3)

SOV/62-59-7-15/30

AUTHORS: Kucherov, V. F., Segal', G. M., Nazarov, I. N.

TITLE: Investigation in the Field of the Stereochemistry of Cyclic Compounds (Issledovaniye v oblasti stereokhimii tsiklicheskikh soyedineniy). Communication 29. Stereochemistry of the Oxidation of the Sin-cis-Δ^4-octaline-1,2-dicyclocarboxylic Acid by Means of Peracetic Acid (Soobshcheniye 29. Stereokhimiya okisleniya sin-tsis-Δ^4-oktalin-1,2-dikarbonovoy kisloty pri pomoshchi peruksusnoy kisloty)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 7, pp 1253 - 1261 (USSR)

ABSTRACT: In the present paper the oxidation in the presence of peracetic acid is investigated. The compound (I) mentioned in the title for which the catalytic hydration proves to be stereospecific serves as an example. It was found that the reaction is not stereospecific in this case but leads to the formation of α- and β-oxide mixtures (II) and (III). They are produced in rather equal quantities and could be separated by means of fractionated crystallization. Some stereospecific reactions

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Investigation in the Field of the Stereochemistry of SOV/62-59-7-15/38
Cyclic Compounds. Communication 29. Stereochemistry
of the Oxidation of the Sin-cis-Δ^4-octaline-1,2-dicyclocarboxylic Acid by
Means of Peracetic Acid

were investigated by means of which the accordance to a certain rule of the transformations of these isomeric oxide rings could be detected in order to confirm the configuration of the two isomers. The transformations were confirmed in the case of the models of the molecule. It is furthermore shown that the α-oxide (II) is capable of a slight trans-diaxial opening of the oxide ring at the C-O-bond in the case of C_{10}, under formation of 4-oxy-γ-lactonic acid (IV). The β-oxide is much more stable, compared with this reaction. The ring is opened at the C_4-carbon atom in a similar reaction under formation of the same configuration at this carbon atom. Then the reaction of β-oxide and (XXVI) is investigated with hydrochloric acid and it is found that the latter leads to the formation of trans-chlorohydrin (XVI) and (XIX) which leads again to the lactonization into the corresponding 4-chloro-γ-lactonic acid of the trans-decalin series the configuration of which corresponds to that

Card 2/3

Investigation in the Field of the Stereochemistry of Cyclic Compounds. Communication 29. Stereochemistry of the Oxidation of the Sin-cis-Δ^4-octaline-1,2-dicyclocarboxylic Acid by Means of Peracetic Acid SOV/62-59-7-15/38

of the 4-oxy-γ-lactonic acid. The formation schemes of the compounds and their representation with respect to space are given. The individual transformation- and synthesis reactions are described in detail in the experimental part. There are 7 references, 4 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: October 16, 1957

Card 3/3

SOV/79-29-3-13/61

5 (3)

AUTHORS: Kucherov, V. F., Segal', G. M., Nazarov, I. N. (Deceased)

TITLE: Investigation in the Field of Stereochemistry of the Cyclic Compounds (Issledovaniye v oblasti stereokhimii tsiklicheskikh soyedineniy). XXXI. Stereochemistry of the Oxidation of the Anti-cis- Δ^4-octalin-1,2-dicarboxylic Acid (XXXI. Stereokhimiya okisleniya anti-tsis- Δ^4-oktalin-1,2-dikarbonovoy kisloty)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 804-809 (USSR)

ABSTRACT: The authors showed earlier that the oxidation of the isomeric syn- and anti- Δ^4-octalin-1-carboxylic acids by peracetic acid takes place spatial-selectively on the side opposite to the carboxyl groups and that it leads to the α-oxides (I) and (II) only. The anhydride of syn-cis- Δ^4-octalin-1,2-dicarboxylic acid, on the other hand, does not oxidize selectively with respect to space and yields a mixture from the isomeric oxides (III) and (IV) (Scheme 1) (Refs 1-3). In the present paper the authors investigate the stereochemistry of the oxidation of the isomeric anti-cis- Δ^4-octalin-1,2-dicarboxylic acid and its derivatives with peracetic acid, as well as the cis-hydroxylation reactions of both isomeric syn-cis- and anti-cis-anhydrides. The oxidation of the an-

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SOV/79-29-3-13/61

Investigation in the Field of Stereochemistry of the Cyclic Compounds. XXXI. Stereochemistry of the Oxidation of the Anti-cis-Δ^4-octalin-1,2-dicarboxylic Acid

hydride of anti-cis-Δ^4-octalin-1,2-dicarboxylic acid (V) with peracetic acid proceeds, unlike the isomeric syn-cis-anhydride, selectively with respect to space and leads to α-oxide (VI). In boiling with water, (VI) passes over to lactonic acid (VII). The fact that the acid (VII) does not yield any keto-γ-lactonic acid with oxidation, but is subject to a deep cleavage, proves that (VII) contains a tertiary carboxyl group. Also the oxidation of anti-cis-Δ^4-octalin-1,2-dicarboxylic acid (VIII) proceeds in the same way, in which connection a mixture forms from the corresponding α-oxide (IX) and oxy-γ-lactonic acid (VII). In the same way takes place the cis-hydroxylation of anti-cis-anhydride (V) with osmium anhydride on the side opposite to the carboxyl groups. The cis-glycol (XIX) separated in this connection contains an axial hydroxyl group at C_{10}, which leads to a slight dehydration and to the compound (XV). In conclusion, the investigation covered the oxidation of anti-cis-Δ^4-octalin-1,2-dicarboxylic acid (VIII), of its anhydride (V) and diester (XI) with peracetic acid, in which connection the

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SOV/79-29-3-13/61

Investigation in the Field of Stereochemistry of the Cyclic Compounds. XXXI. Stereochemistry of the Oxidation of the Anti-cis-Δ^4-octalin-1,2-dicarboxylic Acic

corresponding α-oxides (IX), (VI) and (XII) were obtained, the configuration of which was proven by stereospecific transformations. It further covered the cis-hydroxylation of syn-cis- and anti-cis-anhydride (XX) and (V). The isomeric cis-glycols (XIX) and (XXII) obtained in this connection were used for the stereospecific synthesis of the isomeric 4-keto decalin-1,2-dicarboxylic acids. There are 8 Soviet references.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences, USSR)

SUBMITTED: January 21, 1958

Card 3/3

GAYLORD, Norman G.; ANDREYEV, V.M. [translator]; RUDENKO, V.A.[translator];
SEGAL', G.M. [translator]; KOCHETKOV, N.K., red.

[Reduction with complex metal hydrides] Vosstanovlenie kompleksnymi gidridami metallov. Moskva, Izd-vo inostrannoi lit-ry, 1959. 912 p.
(MIRA 14:2)

(Reduction, Chemical) (Hydrides)

ANDREYEV, V.M.; SEGAL', G.M.; KUCHEROV, V.F.

Stereochemistry of cyclic compounds. Report No.41: Synthesis of geometric isomers of 7-methoxyhexahydro (and octahydro) phenanthrene- 1,2-dicarboxylic acids. Izv. AN SSSR. Otd.khim. nauk no.8:1475-1482 Ag '61. (MIRA 14:8)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Phenanthrenedicarboxylic acid)

SEGAL', G.M.; RYBKINA, L.P.; KUCHEROV, V.F.

Stereochemistry of cyclic compounds. Report No.51: Steric orientation of diene condensation with 1-(α-chlorovinyl)-Δ'-cyclohexene. Izv.AN SSSR.Otd.khim.nauk no.8:1424-1431 Ag '62. (MIRA 15:8)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Cyclohexene) (Stereochemistry)
(Condensation products (Chemistry)

SEGAL, G.M.

Increasing the quality of planning in prospecting. Razved. i okh. nedr 29 no.5:33-36 My '63. (MIRA 16:7)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete Ministrov RSFSR.

(Prospecting)

SEGAL', G.M.; RYBKINA, L.P.; KUCHEROV, V.F.

Stereochemistry of cyclic compounds. Report No.55: Steric orientation of the diene condensation of 1-vinyl-Δ^1-cyclohexene with trans-β-nitropropylene. Izv. AN SSSR. Ser.khim. no.7:1253-1258 Jl '63. (MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Cyclohexene) (Propene)
(Stereochemistry)

SEGAL', G.M.; RYBKINA, L.P.; KUCHEROV, V.F.

Stereochemistry of cyclic compounds. Report No.56: Steric course of the diene condensation of 1-(α-vinyl chloride)Δ^1-cyclohexene with trans-nitropropylene. Izv.AN SSSR.Ser.khim. no.8:1421-1428 Ag '63. (MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Cyclohexene) (Propene) (Stereochemistry)

SEGAL', G.M.; RYBKINA, L.P.; KUCHEROV, V.F.

Sterochemistry of cyclic compounds. Report No.61: Structural and steric course of diene condensations of some vinylcyclenes with asymmetrical trans-dienophiles. Izv. AN SSSR. Ser. khim. no.8:1463-1470 Ag '64. (MIRA 17:9)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

SEGAL, G.

"Substituting several different rules applied in electromagnetism and induction for a single main rule."

p. 598 (Gazeta Matematica Si Fizica) Vol. 9, no. 11, Nov. 1957
Bucharest, Rumania

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

Pa. 17

USSR/Medicine - Tissue Therapy Jul 50
Thyroid

"Treatment by Implantation of the Thyroid Gland by Filatov's Method," G. I. Segal', S. S. Severin, Surg Dept, Neurological Dept, Molodechnenskiy Oblast Hosp

"Sov Med" No 7, pp 24-26

Discusses high effectiveness of implantation of pieces of the thyroid gland in treatment of various path conditions. Found effective in treatment of trophic and slow healing ulcers of shanks, of scar

173T61

[redacted] USSR/Medicine - Tissue Therapy (Contd) Jul 50

stenosis of stomach, of traumatic epilepsy, and in treatment of genuine epilepsy although considerably less so than in traumatic epilepsy.

173T61

SEGAL', G., I., [redacted]

SEGAL', G.I., kandidat meditsinskikh nauk, zaveduyushchiy (Vileyka); SEVERIN, S.S., zaveduyushchiy (Vileyka).

Tissue therapy by thyroid implants. Klin.med. 31 no.7:89-90 Jl '53. (MLRA 6:9)

1. Khirurgicheskoye otdeleniye Molodechnenskoy oblastnoy bol'nitsy (for Segal'). 2. Nevrologicheskoye otdeleniye Molodechnenskoy oblastnoy bol'nitsy (for Severin). (Thyroid gland) (Tissue extracts)

CONDREA, P.; FRANCHE, M.; VITA, A.; TEODOROVICI, O.; DUCA, E.; DRAGOMIR, C.;
LASCU, N.; MINU-POPOVICI, V.; SEGAL, I.; ENE, M.

Antitularemic living vaccine in therapy of tularemia. Rev. igiena microb. epidem., Bucur. No.2:27-36 Apr-June 54.

(TULAREMIA, therapy
living vaccine, results)
(VACCINES AND VACCINATION, ther. use
tularemia)

Segal, I.E.

Segal, I. E. The class of functions which are absolutely convergent Fourier transforms. Acta Sci. Math. Szeged 12, Leopoldo Fejér et Frederico Riesz LXX annos natis dedicatus, Pars B, 157–161 (1950).

Let G be a locally compact Abelian group, G^* its character group, and C the Banach space of continuous complex-valued functions on G with the uniform norm. The author shows that the subset of C consisting of all absolutely convergent Fourier transforms (Fourier transforms of functions in $L_1(G^*)$) is of the first category in C if G is infinite, and is the whole of C if G is finite. *L. H. Loomis.*

Mathematical Reviews, Vol 12, No. 3.

SEGAL', I.S., kandidat tekhnicheskikh nauk.

Chamber feeder for the pneumatic conveying of loose material. Mekh.trud.
rab. 7 no.5:43 My '53. (MLRA 6:5)
(Conveying machinery)

BARAT, Iosif Yefimovich, kandidat tekhnicheskikh nauk; BARSHEV, Vladimir Nikolayevich, inzhener; BOGUSLAVSKIY, Vladimir Konstantinovich, kandidat tekhnicheskikh nauk; D'YACHKOV, Vladimir Konstantinovich, kandidat tekhnicheskikh nauk; KORNEYEV, Grigoriy Kuz'mich, kandidat tekhnicheskikh nauk; KUZNETSOV, Leonid Vasil'yevich, inzhener; MEKLER, Abram Grigor'yevich, kandidat tekhnicheskikh nauk; NIKOLAYEVSKIY, Georgiy Matveyevich, kandidat tekhnicheskikh nauk; NIKONOV, German Pavlovich, inzhener; OLEKHNOVICH, Angelina Iosifovna, inzhener; SEGAL', Il'ya Samoylovich, kandidat tekhnicheskikh nauk; SPITSINA, Irina Osipovna, kandidat tekhnicheskikh nauk; GORA, V.Ye., inzhener, retsenzent; SPIVAKOVSKIY, A.O., professor, redaktor; BURMISTROV, P.I., kandidat tekhnicheskikh nauk, redaktor; MARTENS, S.L., inzhener, redaktor; MATVEYEVA, Ye.N., tekhnicheskiy redaktor; TIKHANOV, A.Ya., tekhnicheskiy redaktor

[Present-day hoisting and conveying technology in foreign countries; a survey of the literature] Sovremennaia pod"emno-transportnaia tekhnika za rubezhom; obzor literatury. Pod red. A.O.Spivakovskogo i dr. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1957. 306 p. (MIRA 10:6)

1. Chlen-korrespondent Akademii nauk SSSR (for Spivakovskii)
(Hoisting machinery)

SEGAL', I.S., kand.tekhn.nauk

Progressive methods of transporting powdery materials. Mekh.trud.rab. 11 no.7:11-16 Jl '57. (MIRA 10:11)

(Transportation)

KALINUSHKIN, M.P.; ORLOVSKIY, Z.E.; SEGAL', I.S.; BEKASOVA, L.M., red. izd-va; ABRAMOVA, V.M., tekhn. red.; MCCHALINA, Z.S., tekhn. red.

[Pneumatic-tube transportation in construction] Pnevmaticheskii transport v stroitel'stve. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 161 p. (MIRA 14:11)
(Pneumatic-tube transportation)

BARAT, I.Ye.; D'YACHKOV, V.K.; MEKLER, A.G.; NIKOLAYEVSKIY, G.M.; OLEYNIK, A.M.; SEGAL', I.S.; SPITSINA, I.O.; PLAVINSKIY, V.I., red.; CHANGLI, I.I., red.; OSIPOVA, L.A., red. izd-va; TIKHANOV, A.Ya., tekhn. red.

[Present state of the hoisting and conveying machinery industry] Sovremennoe sostoianie pod"emno-transportnogo mashinostroeniia. By Kollektiv sovetskikh, chekhoslovatskikh i nemetskikh avtorov. Moskva, Mashgiz; Prague, SNTL; Berlin, VT, 1961. 420 p. (MIRA 14:11)
(Hoisting machinery) (Conveying machinery)

32(3) SOV/112-59-5-9105

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 100 (USSR)

AUTHOR: Segal, I. Ya.

TITLE: An Efficient Method for Adjusting Trolley Lines

PERIODICAL: Elektr. i teplovozn. tyaga, 1957, Nr 12, p 30

ABSTRACT: Over the 1946-1956 period, the number of pantograph passes reached 69,000 and 30,400 on the Sofrino-Zagorsk and Zagorsk-Aleksandrov, Severnyye Railroads, respectively. This caused speedy wear of the TF100 contact wire. Analysis of operating data of the trolley system (a half-compensated catenary suspension) shows that the wire is worn irregularly: at midspan considerably more than at the hanger where wire condition over a 15-20-meter length would permit more service 2-2.5 years, with the total number of pantograph passes up to 150,000-200,000; the total service life could be brought to 8-12 years. Actually, the contact wire on the Sofrino-Zagorsk section is used 4.5-5 years only. It is noted that the Zagorsk-Aleksandrov contact wire mounted before

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An Efficient Method for Adjusting Trolley Lines

WW2 has had lower wear and is able to withstand 300,000-325,000 pantograph passes. In examining the influence of temperature conditions upon the contact-wire wear, it is pointed out that over the last six years in the northern districts of the Moscow oblast, positive average diurnal temperatures have prevailed over negative temperatures; therefore, contact wires adjusted according to the mounting table would have considerable sagging for most of the year and would be worn in an irregular manner. The wear has decreased 2-2.5 times when 0°C was assumed as a no-sag condition temperature for contact-wire suspension.

L.A.Ch.

Card 2/2

SEGAL, I. Ya.

Experience in using cadmium-copper contact wire. Elek. i tepl. tiaga 2 no.9:22-23 S '58. (MIRA 11:10)

1. Zamestitel' nachal'nika Zagorskogo uchastka energosnabzheniya. (Electric railroads--Wires and wiring)

SEGAL, I.Ya., inzh.

Increasing the service life of overhead trolley wires. Zhel.dor. transp. 47 no.4:64-66 Ap '65. (MIRA 18:6)

SEGAL, J.

Membrane and alteration theories of excitation. Cesk. fysiol. 6 no.3: 301-310 Aug 57.

1. Ustav obecne biologie, Humboldtova Univ., Berlin.
(NERVOUS SYSTEM, physiology,
excitation, membranous & alteration theories (Cz))

SEGAL, L.; CONSTANTINESCU, M.

TECHNOLOGY

REVISTA CONSTRUCTILOR SI A MATERIALELOR DE CONSTRUCTII. Vol. 10, no. 9, Sept. 1958.

Experience acquired in the construction of 450 apartments in the period of one work campaign, March-November 1957. I. p.561.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. ~~5~~3
~~May~~ 1959, Unclass.
March

SEGAL, L.; CONSTANTINESCU, M.

TECHNOLOGY

REVISTA CONSTRUCTILOR SI A MATERIALELOR DE CONSTRUCTII. Vol. 10, no. 11, Nov. 1958.

Experience acquired in the construction of 450 apartments in the period of one work campaign, March-November 1957. II. p.537.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. ~~5~~3 ~~May~~ March 1959, Unclass.

SEGAL', Lev Anatol'yevich; TSIPERSON, A.L., red.

[Assembly and installation of small Freon refrigerating machines] Montazh malykh freonovykh kholodil'nykh mashin. Moskva, Ekonomika, 1964. 81 p. (MIRA 17:7)

KRICHEVSKAYA, O.D.; BELOZERSKIY, N.A.; SEGAL', L.D.; KOLOBOVA, N.Ye.
ANISIMOV, K.N.; NESMEYANOV, A.N.

Kinetics of the thermal decomposition of solid metal carbonyl compounds. Zhur. neorg. khim. 8 no.8:1806-1808 Ag '63.
(MIRA 16:8)

1. Gosudarstvennyy institut proyektirovaniya nikelevykh predpriyatiy i Institut elementoorganicheskikh soyedineiny AN SSSR.
(Molybdenum carbonyl)
(Heat od decomposition)
(Chemical reaction, rate of)

BARANOV, A.M.; MIROSHNICHENKO, R.I.; SEGAL, L.G.; ADADUROVA, Ye.V.; KALININ, V.K., inzh.; red.; DLUGACH, B.A., kand.tekhn.nauk, red.; BOBROVA, Ye.N., tekhn.red.

[Operational requirements for parameters of electric power supply systems for d.c.electric railroads] Ekspluatatsionnye trebovaniia k parametram ustroistv energosnabzheniia zheleznykh dorog, elektrifitsirovannykh na postoiannom toke. Moskva, Gos.transp.zhel-dor. izd-vo, 1959. 234 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut zheleznodorozhnogo transporta. Trudy, no.174).
(MIRA 13:11)

(Electric railroads--Current supply)

L 6382-66 EPA/EWT(1)/EWT(m)/FA/ETC/EWP(f)/FA(b)/EWG(m)/T-2 JD

ACC NR: AP5026824 SOURCE CODE: UR/0286/65/000/017/0102/0102

INVENTOR: 55 Segal', L. M.; Politanskiy, G. M. 44,55

TITLE: Hydraulic decelerator for fuel feed control system in a turbojet engine. 23,44,55 27,44,55 50 B

Class 46, No. 174471 [Announced by the Organization of the State Committee on Aviation Technology, SSSR (Organizatsiya gosudarstvennogo komiteta po aviatsionnoy tekhnike SSSR)] 44,55

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 102

TOPIC TAGS: turbojet engine, hydraulic decelerator, aircraft fuel system 10

ABSTRACT: An Author Certificate has been issued for a hydraulic decelerator (see Fig. 1) of a turbojet-engine fuel-feed control system, which receives signals from the control stick and the fuel-feed limiter. The decelerator contains a piston servo-drive with a spring-loaded rod. The displacement of the control stick moves this rod within

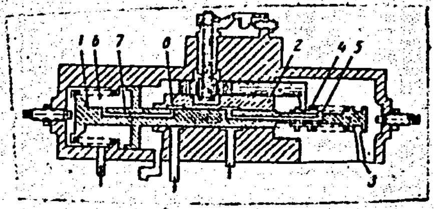

Fig. 1. Hydraulic decelerator

1 - Spring-loaded rod; 2 - guide sleeve; 3 - transmitting mechanism; 4 - damper; 5 - exit opening of piston-rod duct; 6 - working cavity of the cylinder; 7 - auxiliary duct; 8 - annular groove.

Card 1/2 UDC: 621.438-541.4

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ACC NR: AP5026824

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a guide sleeve and acts through a transmitting mechanism on the speed governor power element and on a spring-loaded cylindrical damper, mounted on the rod. The damper shuts off the exit opening of the rod duct connecting the cylinder with the drain. To automatically disconnect the fuel limiters in case of a malfunction or a spurious signal, the rod contains an additional duct which connects the cylinder with the drain by means of an annular groove in the damper. The length of this groove corresponds to the given range of the engine operating regimes. Orig. art. has: 1 figure. [AV]

SUB CODE: 21/ SUBM DATE: 02Oct63/ ATD PRESS: 4144

8C

Card 2/2

SEGAL', L. S., MOSKALETS, N. D., YUSHCHENKO, V. M., KULINICH, I. M.

"Epidemiological characteristics of the focus of tick-borne encephalitis in the Transcarpathian oblast." Page 84

Desyatoye soveshchaniye po parazitologicheskim problemam i prirodnoochagovym boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1 254pp.

SEGAL', L.S.; KULINICH, I.M.

Comparative evaluation of certain methods of laboratory diagnosis for Botkin's disease. Report No.1: Studies on the diagnostic value of agglutination of virus-coated bacteria and heterohemoagglutination. Vop.virus. 4 no.3:326-330 My-Je '59. (MIRA 12:8)

1. Uzhgorodskiy institut epidemiologii, mikrobiologii i gigiyeny.

(HEPATITIS, INFECTIOUS, diagnosis,
agglut. of viruses adsorbed by bact. reaction
(Rus)

SEGAL', L.S.; KULINICH, I.M.

Comparative evaluation of various methods of laboratory diagnosis of Botkin's disease. Study of the activity of aldolase in the blood serum of patients with Botkin's disease. Vop.virus. 4 no.4:478-481 Jl-Ag '59.
(MIRA 12:12)

1. Uzhgorodskiy institut epidemiologii, mikrobiologii i gigiyeny.
(HEPATITIS, INFECTIOUS, blood)
(ALDOLASE, blood)

SEGAL', L.S.

Age factor in influenzal immunity among the population of various zones of the Transcarpathian Province. Vop.virus. 4 no.6:659-663 N-D '59. (MIRA 13:3)

1. Uzhgorodskiy institut epidemiologii, mikrobiologii i gigiyeny.
(INFLUENZA immunol.)

17(1,2)

SOV/16-59-6-29/46

AUTHORS: Segal', L.S., Kulinich, I.M., Yegorova, N.N., Maslovchuk, Ye.P., Klinskaya, Ye.F., Zaydner, G.B. and Mironenko, I.S.

TITLE: The Organization of Measures Against Dysentery in Uzhgorod. Author's Summary.

PERIODICAL: Zhurnal mikrobiologii, epidemiologii i immunobiologii, 1959, Nr 6, p 122 (USSR)

ABSTRACT: The aim of the present work was to study the incidence of dysentery in Uzhgorod to determine the presence of micro-sectors and discover the reasons which led to their formation so that effective measures might be organized to counter dysentery in the area. It was found that between 1953-1955 definite micro-sectors of dysentery persisted, characterized by a higher incidence of the disease and recurrent gastro-intestinal diseases. These micro-sectors proved to consist of several nidi of infection, distinguished from other sections of the town by exceptional overcrowding and unsanitary living conditions. By concentrating prophylactic and sanitary measures on these dysentery micro-sectors, the number of foci (nidi) was cut by half in 10 months. The incidence of

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The Organization of Measures Against Dysentery in Uzhgorod. Author's Summary.

dysentery was reduced by 54.3% and the incidence of all intestinal infections by 39.1%. This underlines the importance of attacking overcrowding and insanitary living conditions in anti-epidemic measures.

ASSOCIATION: Uzhgorodskiy institut epidemiologii, mikrobiologii i gigieny (Uzhgorod Institute of Epidemiology, Microbiology and Hygiene)

SUBMITTED: April 22, 1958

Card 2/2

S/065/61/000/012/005/005
E194/E135

AUTHOR: Segal', L.S.

TITLE: A graphical method of determining the viscosity of mixtures of two and three oils

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.12, 1961, 50-53

TEXT: The viscosity of blends of two or more lubricating oils of different viscosities is usually calculated by an old method developed by Molin and Gurvich. VNIIM determined the kinematic viscosity of mixtures of oils of 0.10 and 20.72 stokes viscosity in various proportions. From a table based on these results the kinematic viscosity of blends may be determined to an accuracy of 0.01 stokes at the start of the table and 0.1 stokes at the end, which is generally adequate. From this table a curve was constructed of the relationship between the proportions of the above mentioned oils in a mixture and the kinematic viscosity of the mixture in stokes. The viscosities of blends may be calculated by the use of simple formulae and tables. To simplify the calculations the author developed a graphical method of

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[illegible] is dropped

A graphical method of determining ... S/065/61/000/012/005/005
E194/E135

to intersection with the curve and thence projection to the left to meet the vertical from A at A_1. The points A_1 and B_1 are connected by a straight line which is the locus of points of all possible mixtures of oils A and B. To determine the viscosity of a given mixture, read off on the lower scale the appropriate percentage of the more viscous oil (64%) and proceed upwards to intersection with the straight line A_1B_1 at the point N_1 then horizontally to intersection with the curve and again vertically to intersection with the viscosity scale, obtaining the result 6.81 stokes. The result is in good agreement with values calculated from the VNIIM table. The viscosity scale used in constructing the curve of the nomogram covers the range from 4 to 12 stokes. If another range is required it may be more accurate or convenient to construct a curve with a different range. There are 2 figures and 4 Soviet-bloc references.

ASSOCIATION: Leningradskiy metallicheskiy zavod
(Leningrad Metal Works)

Card ~~3/4~~ 3

SEGAL', L.S.

Graphic methods of calculating the sinter charge. Obog. rud 7 no.4: 32-36 '62. (MIPA 16:4)

(Sintering--Graphic methods)

SEGAL', L.S.

Automation of the storeroom. Mashinostroitel' no.7:9 Jl '63.
(MIRA 16:9)

(Materials handling) (Automatic control)

ZHUKOVSKIY, Nikolay Platonovich; PETROV, Aleksey Semenovich; BLOKH, L.S., inzh.; SEGAL', L.S., inzh.; BERGER, G.S., kand. tekhn.nauk, retsenzent; KRASNOMOVETS, A.V., otv. red.

[Graphic methods of technological calculations in the design of ore-dressing plants] Graficheskie metody tekhnologicheskikh raschetov pri proektirovanii obogatitel'nykh fabrik. Moskva, Izd-vo "Nedra," 1964. 168 p. (MIRA 17:4)

SEGAL', L.S.

Automatically controlled storeroom. Biul. tekh.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekh. inform. 17 no.3:47-48 '64. (MIRA 17:9)

SEGAL', L.S.

Graphical method of determining the viscosity of binary and ternary oil mixtures. Khim.i tekh.topl.i masel 6 no.12:50-53 D '61.
(MIRA 15:1)

1. Leningradskiy metallicheskiy zavod.
(Lubrication and lubricants) (Viscosity)

MURGULESCU, I. G.; SAHINI, V. E.; SEGAL, M.; DAMASCHIN, M.

Vibrational spectra and structure of copper and silver thiosulfate complexes. Rev chimie Roum 9 no. 1:29-32 Ja '64

1. Center of Physical Chemistry of the Rumanian Academy, Bucharest 9, Strada Dumbrava Rosie, 23.

SEGAL', M., inzh.

Surface silos. Sel'.stroi. 14 no.8:22-23 Ag '59.
(MIRA 12:12)

(Silos)

MUNTEANU, G.; GEORGESCU, C.; SEGAL, M.; POTIRNICHE, A.

Various considerations on a case of pachydermo-periostosis. Stud. cercet. endocr. 13 no.1:140-142 '62.

(BONE DISEASES) (SKIN diseases)

[illegible], D., dr.; MAIOREANU, [illegible]; SEGAL, M., dr.

Considerations on a case of bilateral choanal atresia in a newborn infant. Pediatria (Bucur) 14 no.2:165-169 Mr-Ap'65.

1. Serviciul de pediatrie, Spitalul de stat nr. 12, Bucuresti (for Maioreanu). 2. Serviciul de O.R.L., Spitalul de stat nr.12, Bucuresti (for Segal).

SEGAL', M., inzh.

We have liquidated refuse piles in the yards. Zhil.-kom. khoz. 12 no.4:32 Ap '62. (MIRA 15:7)
(Donetsk--Refuse and refuse disposal)

SEGAL, M.; dr.; HOCIOTA, D., dr.; PACURARIU, I., dr.

Deafness caused by exonehous and endogenous intoxications in children. Otorinolaringologie (Bucur) 10 no.1:49-56 Ja-Mr'65.

1. Lucrare efectuata in Serviciul de otorinolaringologie, Spitalul nr. 12, Bucuresti.